ROBERT BOYLE'S EXPERIMENTAL PHILOSOPHY REVISITED

"Robert Boyle", eds. Michael Hunter and Elizabeth Boran, *Intellectual History Review*, Volume 25, Issue 1 (2015), ISSN: 1749-6977 (print), 1749-6985 (online), 131 pp.

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As the two editors inform us in the preface, this special issue arose out of a colloquium held at the Edward Worth Library in Dublin, in December 2011, to mark the 350th anniversary of the publication of Robert Boyle's most famous work, *The Sceptical Chymist* (London 1661). It contains seven articles and a substantial introduction and covers a good number of important aspects in the field of early modern studies: the evolution of Robert Boyle's thought, his 'conversion' from moral to natural philosophy, his formative relation with his older sister, Lady Ranelagh, his way of reading and writing, his theology, his experimental practices, and some of his reception and immediate posterity.

The first two articles deal with the immediate context of Robert Boyle's formation as a natural philosopher. In his opening paper, Michael Hunter revisits the much debated subject of Boyle's early 'conversion' to natural philosophy. In many ways, the article is a rewriting of Hunter's earlier paper on the same subject, taking into consideration subsequent debates and responding to criticism.[1] At stake is the moment of Boyle's shift of interest from moral to natural philosophy, but also Boyle's links with such groups as the 'Invisible College', the Hartlib Circle and the Oxford Group (later to become the early Royal Society). After discussing some of the criticism formulated against his earlier "How Boyle Become a Scientist?",[2] Hunter concludes by standing behind his old thesis, i.e., that of a 'Great Divide' in Boyle's life, taking place in 1649; a rift dividing an earlier philosophical career and a later "scientific career," marked by an "obsessive experimentalism" (p. 14).

The paper by Michelle DiMeo offers an insightful investigation into a much less explored subject, i.e., Robert Boyle's relation to his elder sister, Lady Ranelagh. DiMeo's analysis focuses on the brother's and sister's mutual interests in medical and chemical matters and devotes substantial attention to their shared religious views.

The third article, authored by Iordan Avramov and Michael Hunter addresses Boyle's reading practices, his techniques of collaborating with amanuenses and assistants, and his ways of making use of various experts in order to obtain access to data. It is an impressively well documented piece of scholarly research, which combines harmoniously historical archival research and a keen awareness of recent historiographic developments. Avramov and Hunter discuss Boyle's practice of reading 'by deputy' and the functioning of his complex network of research assistants

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within the larger context of recent findings regarding humanist methods of reading and writing, common-placing and collaborative research. The emerging picture is remarkable and multi-faceted; and it clearly persuades the reader that much more research is necessary in order to fully understand Robert Boyle's research methods.

Salvatore Ricciardo's article investigates the development of Boyle's views on the immortality of the soul and the resurrection of the dead, showing how Boyle's position evolved from a predominant concern with Aristotelian, early Christian and Socinian views, to a considerable interest in Descartes and mechanism. Ricciardo's claim is that Boyle's views on the immortality of the soul developed from a quite sustained interest in Descartes' *Meditations* (p. 103); and that after 1660s, Boyle modified many of his arguments for the immortality of the soul so that they incorporate corpuscularianism and his particular brand of 'mechanical philosophy'.

Kleber Cecon's article investigates Robert Boyle's 'experimental programme', i.e., the method and scientific practices which, according to Cecon, have grounded Boyle's scientific agenda. The purpose of the paper is to illustrate, on particular examples, some of Boyle's methods for developing novel experiments from trials already carried out. Cecon claims that in pneumatics and chemistry alike, Boyle's experimental programme relied heavily on spelling out expected results and invoking 'intermediate' likely causes. It is not entirely clear to what extent the examples chosen are illustrative of a more general methodology of experimentation. Furthermore, the author works with a somewhat limitative perspective, focusing mostly on how theoretical elements 'guide' experimental practices, without paying attention to more subtle interplays between experiments and theoretical commitments.

The last two articles in this special issue treat of Boyle's reception and immediate posterity. Susan Hemmens investigates the natural historical investigations and the experimental practices of Dublin Philosophical Society's in the 1680s. Hemmens' article documents an interesting shift from a more general Baconian mode of investigation (directed by heads and queries) to one where Boyle's influence becomes more pregnant.[3] By contrast, Peter Anstey's article focuses upon the gradual vanning of Boyle's direct influence upon 'experimental philosophy' in the first decades of the eighteenth century. Anstey discusses the ways in which an increasingly prominent 'mathematical paradigm' came to the fore of the early modern science, shaping in a decisive way the experimental philosophy of John Keill, Francis Hauksbee the Elder and John Theophilus Desaguiliers. Although Anstey is clearly right in claiming a "peripheralization of Boyle's natural philosophy" in the first four decades of the eighteenth century (p. 117), his distinction between 'Baconian' and mathematical modes of practicing natural philosophy is far too sharp and too much reminiscent of the much criticized Kuhnian divide to be entirely convincing. Perhaps a less strong emphasis on this traditional divide between two competing natural philosophical "modes" (the natural historical and the mathematical experimental) would have brought to the fore alternative explanations for the "demise" and "peripheralization" of Boyle's particular brand of "experimentalism."

Despite their diversity, all the articles published in the recent special issue of *Intellectual History Review* have a common emphasis: they focus on the premises, context and development of Robert Boyle's experimental philosophy. They revisit some

themes, but also address a handful of fresh questions regarding Boyle's experimental practices and research methods, as well as their context and immediate posterity. The reader can clearly benefit from reading this volume as a whole, even if she might find it a bit odd that one of the editors is co-authoring two papers in it.

References

[1] Hunter, M., "How Boyle Became a Scientist", *History of Science* 33 (1995): 59-103.

[2] Hunter is discussing particularly criticism formulated by Antonio Clericuzio in Clericuzio, A., "The Many Facets of Boyle's Natural Philosophy", *Nuncius* 23 (2008): 115-26 and Clericuzio, A., "Mercury in Mind", *The Times Literary Supplement* 4 June 2010.

[3] However, it is worth noting that by "Baconianism," Hemmes understands "Baconian natural history" organized under heads and queries, as defined by Anstey, P., and Hunter, M., "Robert Boyle's 'Designe about Natural History'", *Early Science and Medicine* 13/2 (2008): 83-126 and Anstey, P., "Philosophy of Experiment in Early Modern England: The Case of Bacon, Boyle and Hooke", *Early Science and Medicine* 19/2 (2014): 103-32.